

ABSTRACT

The present invention comprises a method to expand sulfur processing capacity for a new or existing sulfur recovery unit. The invention process comprises methods for retrofits of existing sulfur recovery units not including direct oxidation in a catalyst bed between a 5 thermal or first oxidation stage (as is typical of lean acid gas plants) and the tail gas treatment stage. Tail gas treatment stages typically act on process streams having preferably less than about 5 mole percent of non-elemental sulfur components in the process stream.